## EXAMINER'S AMENDMENT

1.      An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the

payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with

Joseph D'angelo Reg. No. 56800 on 02/26/2009.

The application has been amended as follows:

20. (Currently Amended)     The system of claim <u>18</u> [[19]], wherein the request is in

accordance with a Java-based protocol.

28. (Currently Amended)     A program product for managing network resources for copying

data stored in a data storage environment, the program product being from management of data

and being comprised of:

<u>computer-readable medium having stored thereon</u> computer-executable logic ~~provided from a~~

~~computer-readable medium~~, when loaded into a computer system causes the computer system to

execute the steps of:

requesting from a server fro services on a network, an allocation of bandwidth for data copying

from a first data storage system to a second data storage system over the  network based on

estimate of the data to be copied, a number of invalid tracks between said first and second data

storage systems, and a known time period in which to copy said data;

copying data in response to the bandwidth allocation from the server based on the request;

monitoring network traffic performance characteristics during the data copying;

and

responsive to the monitored network traffic characteristics, selectively requesting an effect on the

bandwidth allocation.

2.      The following is an examiner's statement of reasons for allowance: the closest prior art of

record, (Colby et al. 6449647, Chiou et al. 6792507 and Martini 5737577), does not teach nor

suggest in detail, "a mothod, system or program product for managing network resources for

copying data stored on a first data storage system to a second data storage system in a data

replication process, wherein each data storage system includes an array of data storage devices

on which data involved in the copying is stored, comprising: requesting from a server for

services on a network, an allocation of bandwidth for data copying from the first data storage

system to the second data storage system over the network, said bandwidth allocation based on

an estimate of the data to be copied, a number of invalid tracks between said first and second

data storage systems, and a known time period in which to copy said data; copying data in

response to the bandwidth allocation from the server based on the request; monitoring network

traffic performance characteristics during the data copying; and responsive to the monitored

network traffic characteristics, selectively requesting an effect on the bandwidth allocation," as

argued by the Applicant (see Remarks dated 12/10/2008, pages 6 – 15; Specification as of

01/23/2006, pages 54 – 57; and Drawings dated 12/11/2001, Figures 15 – 20 of Applicant's

enabling portions of the specification and drawings).

3.      Neither Colby, Chiou and Martini teach, alone or in combination, the cited claim

language above, as stated and argued in the Applicant's Remarks, more specifically, "requesting

from a server for services on a network, an allocation of bandwidth for data copying from the

first data storage system to the second data storage system over the network, said bandwidth

allocation based on an estimate of the data to be copied, a number of invalid tracks between said

first and second data storage systems, and a known time period in which to copy said data".

4.      Colby teaches determining a bandwidth based on data content and the required level of

Quality of Service, i.e., classes, for the particular data content. Colby does this by determining

the type of content that is to be requested or filename extension of the content and utilizes a table

of parameters that fits the QoS class. Colby uses the size of the data to aid in determining what

class to utilize but does not utilize a number of invalid tracks between said first and second data

storage systems to determine an allocation of bandwidth in combination with and estimate of

data to be copied and a time period in which to copy said data.

5.      Chiou discloses a "system and method... [which] includes a cache near the target devices

and another cache at the requesting side so that the data traffic across the computer is reduced."

Chiou does not teach any indication of allocating bandwidth or any algorithm in determining a

rate at which the caching occurs or the use of parameters to determine a bandwidth to allocate.

6.      Martini discloses "allocating the bandwidth, the system assumes that all files are being

transferred at the minimum rate and calculates N accordingly," where the "minimum rate" refers

to the "worst case when all accesses are made to the same bitstream and the bitstream is located

at the inner tracks of the disk." Although a mention of tracks is made, there is no discussion or

teachings about invalid parts of those tracks between two storage devices and the use of size of

data being transferred and a time period at which the allocation would take place for the transfer.

7.      The cited areas of the prior art clearly do not find the Applicant's invention obvious and

would be difficult to motivate one of skill in the art to combine these used references to come up

with the Applicant's claimed invention.

8.      The dependent claims further limit the independent claims and are considered allowable

on the same basis as the independent claim as well as for the further limitations set forth.

9.      Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee.  Such submissions should be clearly labeled "Comments on Statement of Reasons for

Allowance."

10.     Claims 1 – 5, 7, 8, 16 – 18, 20 – 22 and 24 – 28 are allowed.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DAVID E. ENGLAND whose telephone number is (571)272-

3912.  The examiner can normally be reached on Mon-Thur, 7:00-5:00.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tonia Dollinger can be reached on 571-272-4170.  The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

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Application Information Retrieval (PAIR) system. Status information for published applications
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